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14 JAN 1971

MEMORANDUM FOR: Inspector General
ATTENTION: Chief, Inspection Staff
SUBJECT: CORONA

1. Shortly after you left, Ken, I glanced at your CORONA history and became so enwrapped in it that I saw it through to the end, then and there. For openers let me say that I think you have done an incredible job of sleuthing, exposing a considerable amount of knowledge and detail regarding the CORONA program that has escaped me over these years. I think the document portrays quite accurately those aspects of the CORONA program which are familiar to me. It is also a lively little piece of information which has somewhat of the mystery novel flair to it. My comments, other than those of laudation, will be few.

2. When reading of the repeated failures of the early CORONA launchings, one does begin to appreciate the frustrations that the program personnel experienced. What might come to mind, however, to the uninformed reader would be a simple question, why would people persist in the face of such adversity and failures? It might be appropriate to infuse in this portion of your history a statement which would reflect the utter paucity of intelligence information available to our policy makers regarding the Soviet Union, and the fact that a critical intelligence gap had to be filled and there was no other place to turn to except make CORONA work (the U-2 being a short-range gap filler and obvious political liability).

NRO review(s) completed.

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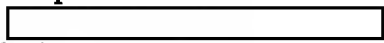


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3. You should not get too concerned about sneaking into some technical terms here and there since it is fairly difficult to relate the facts regarding failure of certain components without describing them by name. Re Abbot Smith's concern over velocity-over-height, you might add a comment to that phrase which states that improper v/h match will cause the image to appear as smear on the film.

4. With reference to your concern over the differences between the C, C' and C''' cameras, the principal difference is that C and C' were oscillating lenses and the C''' version employed the rotating lens. There is an additional difference in that the C''' used rollers associated with the platen mechanism which permitted the lens to scan across the film, as opposed to the earlier versions wherein the film was held against the sponge type base while the image was scanned onto it. There is a nuance in contracting which does not come out in your history which may be background for you and that is in the C and C' contracts Itek was a subcontractor to LMSC and Itek in turn went to Fairchild on a subcontract for Fairchild to build the camera hardware while Itek retained responsibility for the lenses. With the advent of the C''', Itek closed out the Fairchild subcontract and built the entire camera system itself.

5. Regarding the vibration which was experienced in the J-1 model, I would tend to lean toward  opinion that it may not be possible to isolate or measure the factors contributing to the improved image quality. There is no question in our mind, however, that a portion of the smear budget had been prompted by the reciprocating methodology of the camera, and by going to the constant rotator we have eliminated that percentage of the budget. There is also no question in anyone's mind that the constant rotator is yielding better photographs and we feel one of the factors contributing to that was the elimination of the



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reciprocating technique which induced vibration and, hence, jitter in the image quality. The true test of J-3 quality was demonstrated on the most recent CORONA mission which flew a glass filter which permitted better imaging than ever and by permitting best imagery conclusively proved there was no vibration induced into the system.

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6. As I mentioned to you on the phone, [redacted] is preparing the history of the NRO for the Historical Staff and she does portray certain aspects of the early CORONA machinations with the Air Force. While you might not want to refer to any of this, I would suggest you might want to read it for your own curiosity and information.

7. I appreciate the opportunity to have read your paper. I can find nothing but praise for it. John Parangosky could be helpful in providing additional comments.

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[redacted]
JOHN N. MCMAHON
Deputy Director of ELINT
DD/S&T

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